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REMARKS

Claims 15-22 have been canceled. New claims 23-35 have been added. It should be appreciated that new claims 23-35 merely clarify the invention as disclosed in the specification and drawings. Claims 23-35 remain in the invention.

Claims 15-22 were rejected under 35 U.S.C. 112, first paragraph, as containing subject matter not described in the specification. Claims 15-22 have been canceled. Therefore, Applicant respectfully submits that this rejection is now moot.

Claims 15 and 16 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 4,759,489 to Pigott. Applicant respectfully traverses this rejection.

U.S. Patent Number 4,759,489 to Pigott discloses a method of automobile body building that includes the steps of forming an upper body module 50 that incorporates the roof area and a lower body module 78 that incorporates the floor area. The method also includes the steps of precision forming mating locations 62 on the upper and lower body modules 78 and utilizing the locations on the upper module as a reference for fitting of the interior parts and equipment into the upper module 50. It is contemplated that one module has a precision drilled hole 82 and the other module has a precision turned pin 62. The method further includes the steps of fitting the upper and lower modules together by use of the mating locations after the interior parts and equipment have been fitted into both modules. In this example, the upper and lower modules are locked together at the mating locations by bolting. The modules are permanently joined at a joining station by welding.

Pigott also discloses an apparatus for automobile building that includes two sets of workstations. The first workstation 20 includes an upstream station at which an upper body module 50 incorporating a body roof area is formed having a set of locations that reference a master body point and at least one substation where subassemblies are fitted to the upper

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module utilizing the locations on the module to define reference axes, to ensure precision mounting of the sub-assemblies. The second set of work stations 22 includes a similar upstream station for a lower module incorporating a body floor area, a mating station at which the upper and lower modules and fitted sub-assemblies are mated together by use of the respective reference locations on the two modules. The apparatus also includes a joining station at which the mated upper and lower modules are permanently fixed together, such as by welding. Pigott '489 does not disclose a method of forming a joint between two members using an adhesive to secure the two members together.

In contradistinction, new claims 23 and 31 clarify the invention as a method of forming a joint between two members during a manufacturing process using an adhesive. The method includes the steps of providing a joint between a first member and a second member. The first member includes a coverage portion extending along the first member from a first point at a first end of the first member to a second point at which the first member curves to form a tangent portion, and a fill portion extending from the second point to a line segment that is collinear to the tangent portion. The method also includes the steps of depositing adhesive along a predetermined area of the coverage portion and a predetermined area of the coverage portion to form a joint interconnecting the first member with the second member.

Pigott '489 does not disclose, anticipate or otherwise suggest the claimed invention of claim 1 as amended. Pigott '489 merely discloses an apparatus and method for assembling together a vehicle body. The vehicle body is separated into an upper portion and a lower portion. The upper portion and lower portion include formed mating locations, such as a hole in one member and a corresponding peg in another member. The mating locations are used

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to temporarily pin together the upper and lower body portions, which are then permanently joined by welding.

Pigott '489 does not disclose, anticipate or otherwise suggest a method that includes the step of forming a joint by providing a first member having a coverage portion extending along the first member from a first point at a first end of the first member to another point at which the first member begins to curve to form a tangent portion. Pigott '489 also does not disclose, anticipate or otherwise suggest the step of providing a second fill portion extending from the second point to a line segment that is collinear to the tangent portion. Pigott '489 further does not disclose, anticipate or otherwise the step of the step of depositing adhesive along a predetermined area of the coverage portion and a predetermined area of the fill portion to form a joint. A joint having a coverage portion and a fill portion and adhesive deposited along a predetermined portion of the flange coverage portion and the flange fill portion is not the same as a first member having a hole and a second member having a corresponding peg for temporarily fixing the first and second member together, and permanently welding the first and second members together. The function of the mating locations of Pigott '489 is to locate the first and second members with respect to each other and hold them together prior to permanently fixing them together, and not provide a surface area for forming an adhesive filled joint, as disclosed by the Applicant. Therefore, it is respectfully submitted that claims 23 and 31 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. 102(b).

Claims 15, 16 and 17 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Number 5,849,122 to Kenmochi et al. Applicant respectfully traverses this rejection.

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U.S. Patent Number 5,849,122 to Kenmochi et al. discloses a method of fabricating a vehicle body panel having a honeycomb sandwich structure. Kenmochi et al. '122 contemplates that the vehicle panel 14 will have a first plate 30, a second plate 22 and a honeycomb core 28 sandwiched between the first plate and the second plate. It is contemplated that the second plate 22 is an integral part of a structural panel of the vehicle body. It is also contemplated that the honeycomb sandwich structure is composed of a pre-formed sub-honeycomb panel 26 having a predetermined shape and includes the first plate 30 connected to a first surface of the honeycomb core 28.

The method includes the steps of strengthening the second plate 22 by connecting the structural panel 14 to a structural member, and the second plate 22 is integral to the structural panel 14 and the strength member is part of the vehicle body framework. The method also includes the step of pressing the pre-formed sub-honeycomb panel 26 against the second plate with an adhesive layer 24 therebetween, to connect a second surface of the honeycomb core to the second plate 22. The second surface of the honeycomb core is located opposite of the first surface. The honeycomb core 28 is made of a permeable, paper material, such that pressing the sub-honeycomb panel 26 against the second plate occurs immediately after a drying step conducted after washing of a painting stage of the vehicle body, to prevent the honeycomb core from getting wet. The step of pressing the sub-honeycomb panel also includes the step of releasing pressure formed within the sub-honeycomb panel 26 by the pressing step, to prevent damage to the sub-honeycomb core due to pressure inside a plurality of cells in the sub-honeycomb as a result of pressing onto the strengthened second plate. Kenmochi et al. '122 does not disclose a method of forming a joint between two members using an adhesive to secure the two members together.

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Kenmochi et al. '122 does not disclose, anticipate or otherwise suggest the claimed invention of claim 23. Kenmochi et al. '122 merely discloses a method for constructing a vehicle body panel having a honeycomb sandwich structure. The method includes the steps of adhering the first plate to one of the opposite surface of the honeycomb core for forming a honeycombed panel having a predetermined shape. The method also includes the steps of forming a second plate that is part of the vehicle structure and connecting the structural panel to a strength member that is part of the framework to the vehicle body. The sub-honeycomb panel is pressed against the second plate which is part of the structural panel and an intermediary adhesive layer is used to adhere the other major surface of the honeycomb core to the second plate, to make line-to-line contact between the two plates.

Kenmochi et al. '122 does not disclose, anticipate or otherwise suggest a method that includes the step of forming a joint by providing a first member having a coverage portion extending along the first member from a first point at a first end of the first member to a second point at which the first member curves to form a tangent portion. Kenmochi et al. '122 also does not disclose, anticipate or otherwise suggest the step of providing a second fill portion extending from the second point to a line segment that is collinear to the tangent portion. Kenmochi et al. '122 further does not disclose, anticipate or otherwise the step of the step of depositing adhesive along a predetermined area of the coverage portion and a predetermined area of the second fill portion to form a joint. A joint having a flange coverage portion and a fill portion and adhesive deposited along the coverage portion and the fill portion is not the same as a first member and a second member and an adhesive filled honeycomb layer therebetween to provide line-to-line contact between the first and second members. The laminate structure including an adhesive filled honeycomb layer of Kenmochi et al. '122 is distinguishable from the joint structure disclosed by the Applicant. Therefore, it

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is respectfully submitted that claims 23 and 31 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. 102(b).

Claims 17-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 4,759,489 to Pigott as applied to claims 15-16 above and further in view of U.S. Patent Number 5,362,120 to Cornille. Applicant respectfully traverses this rejection for the reasons set forth above with respect to the rejection under 35 U.S.C. 102(b), and further as follows.

U.S. Patent Number 5,362,120 to Cornille discloses a vehicle body construction and method for inspection of adhesively secured joints therein. The vehicle body 10 includes a pair of structural body members 14, 16 having opposed surfaces and an adhesive 12 that forms a substantially concealed joint securing the opposed surfaces to each other to connect the pair of structural body members. One of the body members includes small inspection openings 22 formed through its opposing surface at spaced intervals to permit visual observation of whether there is adhesive between the opposed surfaces at the spaced intervals to provide an indication of the integrity of the adhesive joint.

The method of joining a pair of vehicle body members includes the steps of forming a first vehicle structural body member 14 having a first surface with inspection openings 22 at spaced intervals and a second vehicle structural body member having a second surface 16. The method also includes the steps of applying an adhesive on one of the surfaces, and placing the surfaces in opposition with one another with the adhesive 12 therebetween. The method further includes the steps of curing the adhesive to form an adhesive bond securing the surfaces together and forming a substantially concealed joint and observing visually through the inspection openings 22 for the presence of adhesive 12 as an indication of the

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strength of the adhesive bond. Cornille '120 does not disclose a method of forming a joint between two members by depositing the adhesive in a predetermined location.

None of the references, alone or in combination with each other, teach or otherwise suggest the claimed invention of new claims 23 and 31. Specifically, the Pigott '489 reference merely discloses a method of building an automobile body using an upper and a lower body module that are temporarily secured using a pin in a hole, and permanently secured by welding. Cornille '120 merely discloses a method of securing joints that includes placing a plurality of holes in the opposed body members to visually inspect whether there is adhesive between the opposed surfaces as an indication of the integrity of the bond. Pigott and Cornille do not disclose a joint having a coverage portion extending along the first member from a first point at a first end of the first member to another point at which the first member curves to form a tangent portion. Pigott '489 and Cornille '120 do not disclose a joint having a second fill portion extending from the second point to a line segment that is collinear to the tangent portion. Further, Pigott '489 and Cornille '120 do not contemplate adhesive deposited along a predetermined area of the coverage portion and a predetermined area of the fill portion to form a joint.

The combination of references, if combinable, would not render obvious Applicant's invention as claimed in new claims 23 and 31. The combination of Pigott '489 and Cornille '120 would yield a method and apparatus for constructing a vehicle body that includes a vehicle body is separated into an upper portion and a lower portion. The upper portion and lower portion would include formed mating locations, such as a hole in one member and a corresponding peg in another member. The upper and lower portion would also include a plurality of spaced apart holes in opposed surface that are to be bonded together. The mating locations are used to temporarily pin together the upper and lower body portions. Adhesive is

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utilized to permanently join the upper and lower body portions, and the holes provide for visual inspection of the presence of adhesive. Such a combination is distinguishable from Applicant's invention, in that the present invention discloses that a method of forming a joint by providing a first member having a coverage portion extending along the first member from a first point at a first end of the first member to another point at which the first member curves to form a tangent portion, and a second flange fill portion extending from the second point to a line segment that is collinear to the tangent portion. Adhesive is deposited along a predetermined area of the coverage portion and a predetermined area of the fill portion to form the joint. The unobvious feature of the present invention of new claim 23 is the structural shape of the members and the placement and amount of adhesive used to form the joint. Therefore, it is respectfully submitted that new claims 23 and 31 and the claims dependent therefrom are allowable over the rejection under 35 U.S.C. 103(a).

Claims 18-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Number 5,849,122 to Kenmochi as applied to claims 15-17 above and further in view of U.S. Patent Number 5,362,120 to Cornille. Applicant respectfully traverses this rejection for the reasons set forth above.

In addition, none of these references, alone or in combination with each other, teach or otherwise suggest the claimed invention of new claims 23 or 31. Specifically, the Kenmochi et al. '122 reference merely discloses a method of building an automobile body having a honeycomb sandwich structure. Cornille merely discloses a method of securing joints that includes placing a plurality of holes in the opposed body members to visually inspect whether there is adhesive between the opposed surfaces as an indication of the integrity of the bond. Kenmochi et al. '122 and Cornille do not disclose a joint between a first member having a coverage portion extending along the first member from a first point at

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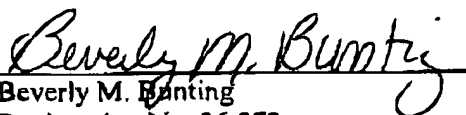
a first end of the first member to another point at which the first member curves to form a tangent portion. Kenmochi et al. '122 and Cornille '120 do not disclose a joint having a second fill portion extending from the second point to a line segment that is collinear to the tangent portion. Further, Kenmochi et al. '122 and Cornille '120 do not contemplate adhesive deposited along a predetermined area of the first coverage portion and a predetermined area of the second fill portion to form a joint.

The combination of references, if combinable, would not render obvious Applicant's invention as claimed in new claim 23. The combination of Kenmochi et al. '122 and Cornille '120 would yield a method and apparatus for constructing a vehicle body panel that includes a first and a second panel opposed to the first panel and a paper honeycomb layer disposed therebetween. The upper and lower panels would also include a plurality of spaced apart holes in the opposed surfaces that are to be bonded together. Adhesive fills in around the honeycomb middle layer, and the holes provide for visual inspection of the adhesive bond between the panels. Such a combination is distinguishable from Applicant's invention, in that the present invention discloses that a method of forming a joint by providing a first coverage portion extending along the first member from a first point at a first end of the first member to another point at which the first member curves to form a tangent portion, and a second fill portion extending from the second point to a line segment that is collinear to the tangent portion. Adhesive is deposited along a predetermined area of the first coverage portion and a predetermined area of the second fill portion to form the joint. The unobvious feature of the present invention of new claim 23 is the structural shape of the members and the placement and amount of adhesive used to form the joint. Therefore, it is respectfully submitted that new claims 23 and 31 and the claims dependent therefrom are allowable over this rejection under 35 U.S.C. 103(a).

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Based on the above, Applicant submits that the claims are in a condition for allowance, which allowance is respectfully solicited. If the Examiner finds to the contrary, it is respectfully requested that the undersigned in charge of this application be called at the telephone number given below to resolve any remaining issues.

Respectfully submitted,



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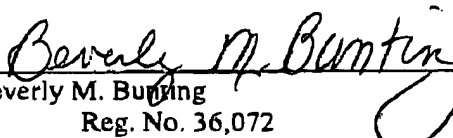
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CERTIFICATE UNDER 37 CFR 1.8(a)

I hereby certify that this correspondence is being sent to the United States Patent Office via facsimile (703) 305-7718 on April 29, 2003.


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